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*USSR: Early September Grain Prospects*

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## Environment Analysis Brief

### USSR: Early September Grain Prospects

#### Summary

Despite the lateness in the ripening and harvesting of the crop, Soviet grain prospects continue to look favorable. As of 9 September, total grain production is estimated at 200 million metric tons, up 5 million tons from our earlier August estimate. Production of this volume would be second only to the 1973 record Soviet crop of 222.5 million tons and would be near this year's goal of 207 million tons. By 1 September, threshing had been completed on 65 million hectares, approximately 52 percent of the area sown to grains, compared to a five-year average of 62 percent.

Weather conditions during the balance of the harvest will be vital in determining final production. Beginning in early September, poor harvesting conditions—early frost, snow, and rain—often prevail; adversely effecting grain quality as well as quantity.

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## Status of Grain Crops

As of 9 September, Soviet grain production is estimated at 200 million metric tons, up 5 million tons from our earlier estimate in August.<sup>1</sup> Production of this amount would exceed last year's disastrous harvest by some 60 million tons and would be the second largest in Soviet history (see Table 1). A harvest of this magnitude would, however, be below the Soviet goal of approximately 207 million tons for 1976 and substantially less than the average annual production plan of 215-220 million tons called for in the 1976-80 plan.

Since our August estimate, there have been several unexpected changes in the weather situation relative to both the volume and quality of the Soviet grain crop. In European USSR, the frequency and distribution of precipitation increased during August rather than diminished as normally would be expected. The excess moisture promoted excessive weed competition, leaf diseases, and lodging; reducing potential yields.

Offsetting the diminished crop prospects in European Russia have been two important factors.

1. Within the spring wheat regions of Siberia and Northern Kazakhstan, rainfall during August, following conditions of low soil moisture, has promoted an

<sup>1</sup> The EAS estimate is consistent with official Soviet reports of production based on "bunker weights." Wet weather this year is expected to result in higher levels of moisture content, particularly for barley, oats, and winter wheat.

TABLE 1

USSR: Grain Production<sup>1</sup>

Million Metric Tons

	Annual Average 1966-70	1971	1972	1973	1974	1975	Annual Average 1971-75	Estimated 1976
Total .....	167.6	181.2	168.2	222.5	195.6	139.9	181.5	200
Winter grains .....	50.8	63.0	40.6	63.5	62.5	48.6	55.6	44
Wheat .....	35.9	47.8	29.4	49.4	44.7	36.6	41.6	33
Rye .....	12.8	12.8	9.6	10.8	15.2	9.0	11.5	11
Spring grains .....	116.7	118.2	127.6	159.0	133.1	91.2	125.8	154
Wheat .....	54.3	51.1	56.6	60.5	39.2	29.5	47.4	52
Barley <sup>2</sup> .....	28.3	32.3	35.1	51.7	51.6	32.8	40.7	56
Oats .....	11.9	14.6	14.1	17.5	15.3	12.5	14.8	16
Corn .....	9.6	8.6	9.8	13.2	12.1	7.3	10.2	16 ½
Pulses .....	7.2	7.0	7.1	8.5	8.7	5.3	7.3	8
Millet .....	2.9	2.0	2.1	4.4	2.9	1.1	2.5	2 ½
Rice .....	1.0	1.4	1.7	1.8	1.9	2.0	1.8	2
Buckwheat .....	1.2	1.1	0.8	1.3	1.0	0.5	0.9	1

<sup>1</sup> Because of rounding, components may not add to the totals shown.

<sup>2</sup> Includes winter barley and mixed grains.

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unusual amount of tiller growth.<sup>2</sup> As a result, potential small grain production has increased.

2. Timely mid-August showers relieved the dry conditions which had prevailed over much of the North Caucasus and southernmost areas of the Ukrainian corn belt. As a result, increased yields in these areas are expected.

Due to the wet harvest of small grains in European USSR, an unusually large percentage of the cereal grains are expected to be of inferior quality. In the case of winter wheat, sprouting in the grain heads and changes in the starch and protein content—the result of repeated wetting and drying—have reduced the amount of grain suitable for flour milling. This problem is intensified in “wet” years by the shortage of enough high-capacity mechanical dryers to dry the grain before storage.

**Harvest Outlook**

Ninety-five percent of the small grains had reached maturity, i.e., ready for swathing<sup>3</sup> as of 28 August. Most of the unripe grain consists of spring wheat in the northern zones of Siberia. As of 1 September, 52 percent of the area sown to grains, excluding corn, had been cut and threshed, compared to a five-year average of 62 percent (see Table 2).

The principal cause of this year's delayed harvest can be attributed primarily to the unseasonably cool, wet weather conditions which have predominated over much of European Russia since early spring.

1. The cool, wet weather this spring delayed field work in many of the major grain regions.

<sup>2</sup>Tillering refers to the development of new stems from lateral buds which may produce additional heads of grain.

<sup>3</sup>The cutting and placing of grain in windrows to facilitate the drying and subsequent combining.

TABLE 2

USSR: Grain Harvest Progress<sup>1</sup>(Million Hectares)<sup>2</sup>

	1971	1972	1973	1974	1975	Annual Average 1971-75	1976
1 August .....	26 (23%)	40 (34%)	26 (21%)	18 (15%)	46 (37%)	31 (26%)	18 (15%)
15 August .....	50 (44%)	58 (50%)	51 (42%)	44 (36%)	62 (50%)	53 (44%)	34 (27%)
1 September .....	71 (62%)	70 (60%)	75 (61%)	76 (62%)	80 (64%)	74 (62%)	65 (52%)
Total .....	114.6	116.1	122.7	123.2	125.3	120.4	125 (Est.)

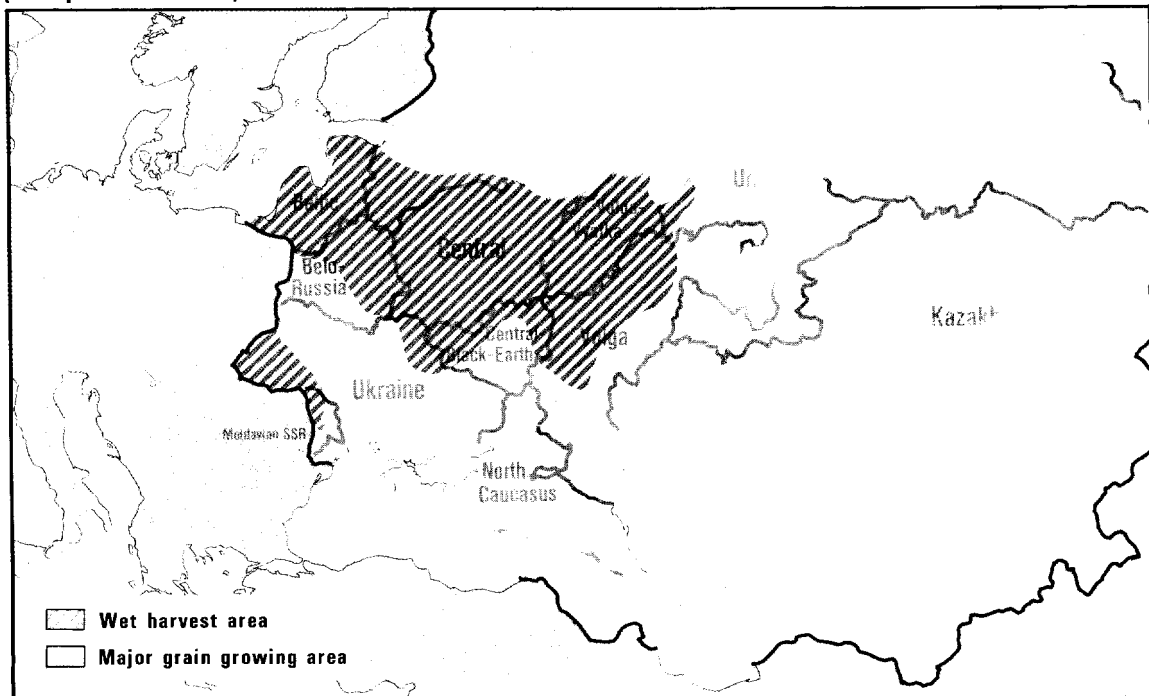
<sup>1</sup>Including all pulses and grain, except corn, grown on state and collective farms. Excluding grain acreage sown on small plots by individuals and acreage sown on subsidiary farming enterprises operated by non-agricultural firms and organizations.

<sup>2</sup>Components and percentages are rounded.

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2. The unusual weather conditions continued throughout most of Northern European Russia during June and July. Such conditions were favorable for the vegetative growth of the small grains. However, maximum grain yields are seldom obtained during years of persistently wet, cool, cloudy weather. The ripening of both the fall and spring sown grains has been delayed by some 10 to 14 days.
3. The wet growing season has contributed to heavy incidences of weed infestation in both cereal grains and corn causing harvest delays. To reduce this problem, two stage harvesting is being practiced in regions of European Russia where direct combining is the more usual practice. In two-stage harvesting grain is cut and left in swaths to permit the drying of grain and green weeds prior to combining.
4. Wet harvest conditions continue to exist in many regions of European USSR where grain has already ripened, threatening to further slow the harvest tempo by making mechanized harvesting operations difficult (see map).

**USSR: Areas With Continuing Problems of Wet Harvest**  
(1 September 1976)



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## Outlook

In general, Soviet crop prospects appear favorable. However, due to the lateness in the ripening and harvesting of the crop, the outlook for final Soviet grain production is uncertain. Despite an increase in the harvesting pace in late August, time is growing short for carrying out the harvest on the remaining 65 million hectares of grain crops—including corn. Even before 1 October, there is considerable risk that severe frost or snow could reduce yields in areas with relatively short growing seasons (see Table 3). Light frosts have already occurred in grain regions of West Siberia. Continuing rains during the harvest and the onset of winter earlier than usual could lead to losses in late September and early October if the pace of harvest does not quicken.

TABLE 3

Average and Extreme Dates of First Frost for Areas with  
Relatively Short Growing Seasons

Region	Dates of First Frost <sup>1</sup>	
	Average Dates	Extreme Dates
Volga-Urals . . . . .	25 Sept-1 Oct	1-10 Sept
Northern Kazakhstan . . . . .	20-25 Sept	25-30 Aug
West Siberia . . . . .	15-20 Sept	25 Aug-5 Sept
East Siberia . . . . .	10-15 Sept	20-30 Aug

<sup>1</sup> Range of dates for several weather stations in each region.

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